A simple inventory system

I wish to simulate a simple inventory system where a stock point is replenished periodically at the start of every day according to an (R=1,ss,S) rule that is whenever the stock level (x) at the start of a day is at or below ss, a replenishment of size S-x products is ordered. Demand is assumed to be Poisson distributed.

A sketch of an ED model:

Source → Queue1 → Server1→ Queue2 → Server2 → Sink

Server2 models the demand, and Queue2 is the stock point, which is supplied periodically from Queue1. The flow from Queue1 to Queue2 is controlled by the (R=1,ss,S) rule; and thus happens only at the start of a day at 8am.

I thought I can use a Conditional control atom (CC in short) to check the times at which the input channel of Queue2 opens and to close it after the required number of products have entered Queue2. (Even better may be to have an intermediate atom to process the orders and to model the distribution of products rather than controlling the input of Queue2.) Therefore the in-and output channel of the CC atom are connected to the central channel.

In the CC atom:

- the condition expression could be: OR(mod(time,hr(24))<>hr(8), content(in(1,c))>ss)
- flow control on true: Close input, allow output

In case the conditional expression is true the input channel of Queue2 should stay closed. Upon false the an order of size S-content(in(1,c)) is to be placed, and the input channel of Queue2 should be opened. As the processing and distribution of this order may take some time (e.g. because we need to wait till enough products are available at Queue1 to send them individually or as a batch to Queue2), Queue2 should stay open till all ordered products have entered Queue2. The above flow control type closes the input too early: as soon as mod(time,hr(24))<>hr(8). So this approach with the condition control does not work.

How should we model this seemingly simple system? Should I add a user event atom and create user events or should I use lock and unlock atoms or still the condition control atom?

Remark: Next to the simple model, I like to develop and extend the model such that it includes multiple product types and the combined transportation of them to different warehouses. This may require other atoms to deal with the control rules. I am interested in hints for the simple version as well as the extended version.